APPENDIX B - SECTION 404(B)(1) EVALUATION SECTION 401 WATER QUALITY CERTIFICATION

CLEAN WATER ACT
SECTION 404(B)(1) EVALUATION
MAINTENANCE DREDGING, POTOMAC RIVER
MARYLAND AND VIRGINIA

AUGUST 1999

I. PROJECT DESCRIPTION

a. Location - The Potomac River Federal Navigation Channel is located below Washington, D.C. and Alexandria, Virginia, in the Potomac River, which separates Virginia from Maryland (Figure 1, Appendix C). The segments to be dredged are located in the upper portion of this channel near the City of Alexandria, Virginia; and Prince George's and Charles Counties, Maryland. The placement site lies within the same reach.

b. General Description - Maintenance dredging is proposed at two channel segments (Hunting Creek Bar and Mattawoman Bar) of the *Potomac River below Washington Project* and at the Alexandria waterfront channel in the vicinity of the ship terminals of the *Potomac River at Alexandria Project*. The *Potomac River below Washington Project* authorized in 1899 provides for a channel of 24 feet deep and 200 feet wide from the Chesapeake Bay to Giesboro Point near Washington, D.C. The *Potomac River at Alexandria Project* authorized in 1910 provides for a channel 24 feet deep from the existing 24 foot contour in the Potomac River to within 20 feet of the pier head line. The existing channels have shoaled to depths that hinder navigational access to Washington, D. C. and Alexandria, Virginia. The channels will be dredged to a depth of 24 feet Mean Lower Low Water (MLLW) plus 0.5 feet of allowable overdepth. Approximately 564,000 cubic yards (cy) of material will be dredged: 104,000 cy from the Alexandria waterfront channel, 96,000 cy from the Hunting Creek Bar, and 364,000 cy from Mattowoman Bar. A total of 7 miles of channel will be dredged. The dredged material will be removed by mechanical dredge and placed in open water by bottom-release scow in a naturally occurring 35-50 foot deep hole in the Potomac River near Gunston Cove off the shoreline of Fort Belvoir. This placement site will be used only once and the material will be mounded within the placement site to enhance fisheries habitat.

c. Purpose - The purpose of the proposed project is to maintain full navigational use of the existing Federal navigation channel.

d. General Description of Discharge Material - Dredged material from Potomac River will be a mixture of sand, silt, gravel, shell, and combinations thereof. The material from Alexandria Waterfront and Mattawoman Bar is primarily fine-grained, cohesive sediment, and the material from Hunting Creek Bar is primarily fine-grained, cohesive sediment with fine sand.

e. Description of the Proposed Discharge Site - The placement site is a naturally occurring 35-50 foot-deep hole in the Potomac River between Dogue Creek and Gunston Cove, Virginia, along the shoreline of Fort Belvoir.

f. Description of Discharge Method - Dredged material will be conveyed to the placement site via a split-hull barge. The material will be placed by opening the hull of the barge and allowing the material to drop into the placement site.

g. Alternatives Considered – Four categories of alternatives were considered along with the proposed action. These categories include (1) the No Action Alternative, as prescribed by CEQ; (2) alternative placement location (12 upland sites, 15 beneficial use sites, and 7 open-water sites); (3) alternative dredging method; and (4) alternative placement method. These alternatives were each found to be impracticable at this time. The no-action alternative would not accomplish the purpose of the proposed action. No landfill sites were found to be suitable, due to the prohibitive cost of performing double-handling the material and paying tipping fees. Other upland sites were not available, due to owner or operator disinterest. Beneficial use sites were impracticable at this time due to SAV and shallow open water habitat concerns, previously existing interagency agreements, or aviation safety regulations. The other open-water placement sites were eliminated from consideration for the proposed project, because they are each further away from the dredging site than the proposed placement site is, and would therefore incur higher transportation costs without a notable change in environmental impact.

II. FACTUAL DETERMINATIONS

a. Physical Substrate Determinations

(1) Substrate Elevation and Slope – The placement site is a naturally occurring deep area in the Potomac River. The approximate length and width of the site are 3600 and 400 feet, respectively. Average depth is 45 feet. The sides of the proposed placement area have a shallow slope, approximately 1:16.

(2) Sediment Type - The discharged material is a fine, cohesive, plastic clay (CH) and elastic silt (MH), with a small amount of fine sand and small gravel. This material contains small amounts of organic material and shell debris.

(3) Dredged/Fill Material Movement – The cohesiveness of the material makes it unlikely to move from the Gunston Cove site once it is placed. This cohesive tendency and the distance the material falls will also limit the contact time with the water during placement.

(4) Physical Effects on Benthos - Dredging of the channel will disturb and remove the existing substrate and benthos.

(5) Other Effects - N/A.

(6) Actions Taken to Minimize Impacts - Environmental protection measures will be employed to avoid and minimize impacts to the aquatic environment. Construction specifications will state that compliance is mandatory for all applicable environmental protection regulations for pollution control and abatement. Construction specifications will also specify that the placed material be mounded to enhance fisheries habitat.

b. Water Circulation, Fluctuation, and Salinity Determinations

(1) Water

(a) Salinity - No significant change expected. Deepening of the channel may allow a deep-water flow of salt water slightly further into the Potomac River. This flow is not believed to be large in scale, however.
(b) Chemistry - No change expected.
(c) Clarity - Temporary change expected during dredging and placement due to turbidity.
(d) Color - Minor and temporary change expected during dredging due to turbidity.
(e) Odor- No change expected.
(f) Taste - N/A.
(g) Dissolved Gas Levels - No change expected.
(h) Nutrients - Minor and temporary release expected during dredging.
(i) Eutrophication - Not expected to occur.
(j) Others as Appropriate - None.

(2) Current Patterns and Circulation

(a) Current Patterns and Flow - Minimal effects are expected.
(b) Velocity - No significant change in velocity is anticipated.
(c) Stratification - No change expected.
(d) Hydrologic Regime - No change expected.

(3) Normal Water Level Fluctuations - No change expected.

(4) Salinity Gradients – dredging of the channels may allow a slight extension of the existing deep-water extent of salt water into the Potomac River basin. This will affect the bottom of the salinity gradient in this extended area, making the water somewhat more saline.

(5) Actions to Minimize Impacts – None.

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Project Sites - Minor and short-term impacts are expected to occur in the immediate vicinity of the dredging and placement sites during dredging operations.

(2) Effects on Chemical and Physical Properties of the Water Column

(a) Light Penetration - A minor, temporary decrease may occur during dredging.
(b) Dissolved Oxygen - No permanent change is expected.
(c) Toxic Metals and Organics –No long-term effect expected.
(d) Pathogens - No pathogens are expected to be released into the water column.
(e) Aesthetics - No adverse impacts are anticipated.
(f) Others as Appropriate - N/A.

d. Contaminant Determinations – Sampling results indicate no significant levels of contaminants in the vicinity of proposed dredging or placement. Minor, short-term increase in

exposure of naturally occurring arsenic to river water at placement site. Arsenic levels are below those found in existing background levels.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton - No effect expected.

(2) Effects on Benthos - Benthic organisms in the immediate area of dredging and placement will be disturbed and removed by dredging operations. Shortly after dredging has stopped, however, the area will begin to recover with the same species migrating from the surrounding area.

(3) Effects on Nekton - Nekton in the immediate area of the dredging are expected to be temporarily disturbed during dredging and placement itself, but return after project completion.

(4) Effects on Food Web - No significant effects are expected.

(5) Effects on Special Aquatic Sites
- (a) Sanctuaries and Refuges - N/A.
- (b) Wetlands - N/A.
- (c) Tidal flats - N/A.
- (d) Vegetated Shallows - N/A.
- (e) SAV Beds – No adverse impacts are anticipated

(6) Threatened and Endangered Species – The U.S. Army Corps of Engineers, Baltimore District, in cooperation with the U.S. Fish and Wildlife Service, has completed the first year of its two year biological survey to determine the presence of the shortnose sturgeon (Acipenser brevirostrum) within the proposed project area. The survey has included the proposed Gunston Cove placement site, and a determination of the importance of this site to the shortnose sturgeon. Based on the available biological survey information presented to date, no sturgeon were found in the project area and no impacts on the species are anticipated. NMFS has agreed that the project will not likely adversely affect the endangered shortnose sturgeon. Although bald eagles occur adjacent to the placement site, USFWS does not consider the project a threat to eagles. The project will be conducted in winter when no nesting occurs.

(7) Other Wildlife - No change expected.

(8) Actions to Minimize Impacts - Dredging will be conducted in accordance with state and federal standards and policies.

f. Proposed Placement Site Determinations

(1) Mixing Zone Determinations – The mixing zone for material disturbed and suspended will be confined to the smallest practicable area.

(2) Determination of Compliance with Applicable Water Quality Standards - Work will be performed in accordance with all applicable State water quality standards. MDE has issued a water quality certification for this proposed action.

(3) Potential Effects on Human Use Characteristics

(a) Municipal and Private Water Supply - No effect expected.
(b) Recreational and Commercial Fisheries - No effect is expected.
(c) Water Related Recreation – No effect expected.
(d) Aesthetics - No effect expected.
(e) Parks, National and Historical Monuments, National Seashore, Wilderness Areas, Research Sites, and Similar Preserves - No effect expected.

g. Determination of Cumulative Effects on the Aquatic Ecosystem – The dredging and placement areas do not contribute significantly to the food chain of the lower Potomac River; are not inhabited by SAV; and are not used exclusively by anadromous fish. The periodic dredging of this channel, therefore, does not have a discrete or cumulative effect on the availability or quality of aquatic habitat. The effects, such as turbidity, are minor and temporary, and do not accumulate.

h. Determination of Secondary Effects on the Aquatic Ecosystem - The proposed dredging will allow the more efficient use of the Potomac River area for commercial navigation. This proposed project will allow for improved passage of commercial vessels into Alexandria, VA, Washington, D.C., and the overall Potomac River area.

III. FINDING OF COMPLIANCE

a. No adaptations of the Section 404(b)(1) Guidelines were made relative to this evaluation.

b. The planned placement of material will be in compliance with State water quality standards and the state has issued a water quality certification for the proposed action

c. The proposed placement of material is not expected to violate the Toxic Effluent Standard of Section 307 of the Clean Water Act.

d. The proposed project will not negatively affect any endangered species.

e. No Marine Sanctuaries, as designated in the Marine Protection, Research, and Sanctuaries Act of 1972, are in the project area.

f. The proposed project will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife will not be adversely affected.

g. Appropriate steps to minimize potential impacts of the placement of fill material in aquatic systems will be followed.

h. On the basis of the guidelines, the proposed discharge sites are specified as complying with the inclusion of appropriate and practical conditions to minimize contamination or adverse effects to the aquatic ecosystem.

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Parris N. Glendening
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WATER QUALITY CERTIFICATION

NABOP - TN-98-02

CERTIFICATION 99-WQ-0004

PUBLIC NOTICE DATE July 24, 1998

TO: Operations Division
Baltimore District, Corps of Engineers
P.O. Box 1715
Baltimore, MD 21203-1715

RE: Potomac River Maintenance Dredging: approximately 970,000 cubic yards of material to be dredged from the Alexandria waterfront, Hunting Creek and Mattawoman bars and placed in a deep hole off Gunston Cove.

This water quality certification is issued under authority of Section 401 of the Federal Water Pollution Control Act and its Amendments and the Environment Article, Sections 9-313 - 9-323, inclusive, Annotated Code of Maryland. A copy of this required certification has been sent to the Corps of Engineers. This certification does not relieve the applicant of responsibility for obtaining any other approvals, licenses or permits in accordance with federal, State, or local requirements and does not authorize commencement of the proposed project. The Maryland Department of the Environment has determined from a review of the plans that the construction of this facility and its subsequent operation as noted herein will not violate Maryland's water quality standards, provided that the following conditions are satisfied.

The applicant shall comply with the conditions marked (X) below:

(X) (1) The proposed project shall be constructed in a manner which will not violate Maryland's Water Quality Standards as set forth in COMAR 26.08.02. The applicant is to notify this department ten (10) days prior to commencing work. Verbal notification is to be followed by written notice within ten (10) days.

(X) (2) The proposed project shall be constructed in accordance with the plan and its revisions as approved by the:

(X) (a) Corps of Engineers
( ) (b) Water Management Administration

(X) (3) All fill and construction materials not used in the project shall be removed and disposed of in a manner which will prevent their entry into waters of this State.

(X) (4) The applicant shall notify this Department upon transferring this ownership or responsibility for compliance with these conditions to another person. The new owner/operator shall request transfer of this water quality certification to his/her name.

(X) (5) The certification holder shall allow the Maryland Department of the Environment or its representative to inspect the project area at reasonable times and to inspect records regarding this project.

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( ) (6) Construction of any bulkhead shall be completed prior to filling behind the bulkhead. The bulkhead shall be constructed in such a manner so as to prevent the loss of fill material to waters of this State. Only clean fill, which is free of organic, metallic, toxic or deleterious materials shall be used.

( ) (7) The disturbance of the bottom of the water and sediment transport into the adjacent State waters shall be minimized. The applicant shall obtain and certify compliance with a grading and sediment control plan which has been approved by the:

( ) (a) _____ Soil Conservation District or
( ) (b) Erosion and Control Representative, Division of Environmental Services, Bureau of Highways, Department of Public Works of the City of Baltimore or
( ) (c) The Department of the Environment, Water Management Administration or
( ) (d) Montgomery County Department of Environmental Protection.

The approved plan shall be available at the project site during all phases of construction.

( ) (8) The spoil disposal area(s), including dikes where applicable, shall be constructed to limit the suspended solids content in the discharge to the waters of this State to four hundred (400) parts per million or less.

(X) (9) Dredging shall be done only in the period June 16 through February 14.

( ) (10) Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway. The natural vegetation shall be maintained and restored when disturbed or eroded. Stormwater drainage facilities shall be designed, implemented, operated and maintained in accordance with the requirements of the applicable approving authority.

( ) (11) _____ shall provide to the Water Management Administration a stormwater management plan including cross-sections which incorporates effective pollutant removal strategies in uplands to treat a minimum of the first one-half inch of runoff from impervious surfaces prior to release of stormwater into State waters or wetlands. There shall be no discharge of untreated stormwater to State waters or wetlands. The plan shall be provided by _____ and shall be implemented by_____.

( ) (12) _____ shall provide to the Water Management Administration a mitigation plan for the construction of _____ acre(s) of _____ wetland for review and approval by _____. The plan shall be implemented by _____. The plan shall show:

-the source of hydrology for the constructed wetland
-the source and amount of soil to be used in constructing the wetland
-the species, size and density of vegetation to be planted in the constructed wetland and a planting schedule.
-a monitoring/maintenance plan.

( ) (13) _____ shall monitor the mitigation site for a period of five years and shall determine whether the wetland construction has been successful. A successful mitigation project shall result in: _____ plants/acre and 85% survivability of plants in forested and scrub/shrub wetlands and plants covering 85% of the area for emergent wetlands. If these standards are not met, _____ shall determine the reason(s) for failure, the problem(s) shall be corrected, and the area(s) shall be replanted and monitored.

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( ) (14) The mitigation site shall be constructed in accordance with the plan, dated_____.

( ) (15) _____ shall provide a _____ plan for review and approval by _____. This plan shall be implemented by _____.

( ) (16) At least one culvert in every stream crossing shall be depressed at least one foot below existing stream bottom under the low flow condition. A low flow channel shall be provided through any riprap structures. The culvert shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species.

( ) (17) Stormwater discharges from ponds, stormwater management outfalls, and stormwater facilities shall have a velocity no greater than four feet per second for the two year storm in order to prevent erosion in the receiving waterway or wetland.

( ) (18) Future stormwater discharges to certified pond(s) are prohibited unless the first one half inch of stormwater runoff from impervious surfaces is managed in uplands for effective pollutant removal.

( ) (19) Authorized stormwater detention ponds shall have a maximum detention time of _____ hours.

( ) (20) _____ shall restore and revegetate all temporarily disturbed waters and wetlands to original contours upon completion of construction.

(X) (21) Special Condition: The Corps of Engineers shall develop a monitoring plan to investigate the fate of the dredged material placed at the Gunston Cove placement site. The Plan shall be submitted to the Department for review and approval prior to the placement of dredged material.

Failure to comply with these conditions shall constitute reason for suspension or revocation of the Water Quality Certification and legal proceedings may be instituted against the applicant in accordance with the Annotated Code of Maryland. In granting this certification, the Department reserves the right to inspect the operations and records regarding this project at anytime.

CERTIFICATION APPROVED

Elder A. Ghigiarelli Jr. — Water Management Administration

July 8 2002 — Expiration Date